

CORE LABORATORIES - CANADA, LTD.
Petroleum Reservoir Engineering

Jim Sinclair

CORE ANALYSIS

PETRO-CANADA EXPLORATION INC.
PCI ET AL TWEED LAKE M-47
TWEED LAKE, N.W.T.
66 55'47" N LAT. 125 54'09" W LONG.
85-02-09

PRELIMINARY
FINAL

FEB 21 1985

6139939897;#18

4032964524+

XEROX TELECOPIER 495;25- 2-85;11:44AM

CORE LABORATORIES - CANADA, LTD.

COMPANY PETRO-CANADA EXPLORATION INC.
WELL PCI ET AL TWEED LAKE M-47
FIELD TWEED LAKE, N.W.T.
LOCATION 66 55'47" N LAT. 125 54'09" W LONG.

FORMATION MOUNT CLARK
CORING EQUIPMENT DIAMOND
CORE DIAMETER.(mm) 88
CORING FLUID WATER BASE MUD

PAGE 1
FILE 7004-85-209C
DATE 85-02-09
ANALYSTS RP

FULL DIAMETER ANALYSIS

Sample Number	Depth Metres (m)	n Rep.	(Sample Length)	Permeability to Air Millidarcys			Perm. X	Porosity		Density (kg/m3)	(Residual Saturation) (Frac of Pore Vol)				VISUAL EXAMINATION
				mD Max.	mD 90 ded.	mD V		Porosity X	Bulk		Grain	Oil	Water		
CORE NO. 1 1217.00 m - 1224.00 (core received 7.05 m) (5 Boxes)															
1	1217.00-17.23	0.23	-	0.24	-	-	0.055	0.149	0.034	-	2650	0.095	0.339	ss vf	
2	1217.23-17.39	0.16	-	0.33	-	-	0.053	0.118	0.019	-	2640	0.186	0.453	ss vf shbk	
3	1217.39-17.62	0.23	-	0.37	-	-	0.085	0.139	0.032	-	2650	0.111	0.269	ss vf shbk	
4	1217.62-17.78	0.16	-	0.28	-	-	0.045	0.092	0.015	-	2650	0.125	0.267	ss vf shbk	
5	1217.78-17.94	0.16	-	0.28	-	-	0.045	0.091	0.015	-	2640	0.142	0.142	ss vf shbk	
6	1217.94-18.05	0.11	-	0.07	-	-	0.008	0.059	0.006	-	2640	0.107	0.312	ss vf	
7	1218.05-18.22	0.17	-	0.17	-	-	0.029	0.065	0.011	-	2630	0.093	0.585	ss vf shbk lam	
8	1218.22-18.35	0.13	-	0.28	-	-	0.036	0.092	0.012	-	2640	0.164	0.481	ss vf shbk lam	
9	1218.35-18.58	0.23	-	0.10	-	-	0.023	0.050	0.011	-	2640	0.295	0.328	ss vf shbk	
10	1218.58-18.88	0.30	-	0.19	-	-	0.057	0.115	0.034	-	2620	0.161	0.407	ss vf shbk lam	
11	1218.88-19.04	0.16	-	0.16	-	-	0.026	0.115	0.018	-	2640	0.204	0.579	ss vf shbk lam	
12	1219.04-19.18	0.14	-	0.20	-	-	0.028	0.110	0.015	-	2630	0.171	0.662	ss vf shbk lam	
-	1219.18-19.48	0.30	-	-	-	-	-	-	-	-	-	-	-	sh shv sdy	
13	1219.48-19.61	0.13	-	0.95	-	-	0.123	0.087	0.011	-	2630	0.137	0.711	ss vf shbk lam	
-	1219.61-22.91	3.30	-	-	-	-	-	-	-	-	-	-	-	sh	
14	1222.91-23.09	0.18	-	0.89	-	-	0.160	0.082	0.015	-	2630	0.179	0.149	ss vf f	
15	1223.09-23.24	0.15	-	0.37	-	-	0.055	0.087	0.013	-	2660	0.086	0.724	ss vf f shbk lam	
16	1223.24-23.51	0.27	-	0.25	-	-	0.067	0.089	0.024	-	2680	0.065	0.740	ss vf f shbk lam	
-	1223.51-24.05	0.54	-	-	-	-	-	-	-	-	-	-	-	sh	

THESE ANALYSES, OPINIONS OR INTERPRETATIONS ARE BASED ON OBSERVATIONS AND MATERIALS SUPPLIED BY THE CLIENT TO WHOM; AND FOR WHOSE EXCLUSIVE AND CONFIDENTIAL USE; THIS REPORT IS MADE. THE INTERPRETATIONS OR OPINIONS EXPRESSED REPRESENT THE BEST JUDGMENT OF CORE LABORATORIES - CANADA LTD. (ALL ERRORS AND OMISSIONS EXCEPTED); BUT CORE LABORATORIES - CANADA LTD. AND ITS OFFICERS AND EMPLOYEES, ASSUME NO RESPONSIBILITY AND MAKE NO WARRANTY OR REPRESENTATIONS, AS TO THE PRODUCTIVITY, PROPER OPERATIONS, OR PROFITABILITY OF ANY OIL, GAS OR OTHER MINERAL WELL OR SAND IN CONNECTION WITH WHICH SUCH REPORT IS USED OR RELIED UPON.

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CORE LABORATORIES - CANADA, LTD.

AST	= Ash	lv	= Large vus	altw	= Siltstone
blar	= Boulder	m	= Medium	ss	= Sandstone
c	= Coarse	mi	= Mud invaded	sshy	= Slightly Shaly (<20%)
calc	= Calcite (areous)	mic	= Micaceous	stl	= Stalolite (ic)
carb	= Carbonaceous	mshy or shy	= Moderately shaly (20-40%)	sulf	= Sulphur
cbl	= Cobble	sv	= Medium vus	sv	= wet/dry sieve analysis
CEC	= Cation exchange capacity	NA	= Not analysed by request	tr	= Trace
con	= Conglomerate	NP	= No permeability measurement	TS	= Thin section
cht	= Chert	ool	= Oolitic	uncons	= Unconsolidated
coal	= Coal/Coal Inclusion	OB	= Overburden	vfrac	= Vertical fracture
dol	= Dolomite	P	= Preserved for future studies	vf	= Very fine
f	= Fine	pbl	= Pebble	VOB	= Vertical overburden sample
fest	= Ironstone	POA	= portion removed for oil analysis	vshy	= Very shaly (>40%)
foss	= Fossil (iferous)	ppv	= Pinpoint vus	vus	= Vuggy (ular)
frac	= Fracture	PSA	= Particle size analysis	*	= broken core
fri	= Friable	pyr	= Pyrite (ic)	**	= Permeability > 10240 mD
glau	= Glauconite (ic)	pyrbit	= Pyrobitumen		
grnl	= Granule				
gyp	= Gypsum				
h frac	= Horizontal fracture				

CLEANING

Solvent	TOLUENE
Extraction Equipment	CENTRAFUGE/VAPOR PHASE
Extraction Time	5 DAYS
Drying Equipment	GRAVITY OVEN
Drying Time	48 HOURS
Drying Temperature	132 DEG.C

ANALYSIS

- Pore volume measured by Boyle's Law in a Hassler holder using He
- Grain vol mrd by Boyle's Law in a modified U.S.B.M. porosimeter using H
- X Grain volume measured by Boyle's Law in a matrix cup using He
- Bulk volume measured by caliperins
- Bulk Volume by Archimedes Principle
- Porosity determined by summation of fluids (retort)
- Fluid saturations by retort on end pieces of full diameter samples
- X Fluid saturation by retort
- Water saturations by Dean-Stark
- Oil saturations by weight difference in Dean-Stark
- Permeabilities measured on 20mm cubes
- X Permeabilites measured on 25 mm diameter drilled plugs
- X Core Gamma Composite
- Core Gamma Spectral

REMARKS:

CORE LABORATORIES - CANADA, LTD.



Petroleum Reservoir Engineering

COMPANY _____ FILE NO. 7004-85-209C
WELL PCI TWEED LAKE M-47 DATE _____
FIELD _____ FORMATION _____ ELEV. _____
PROVINCE _____ DRLG. FLD. _____ CORES _____
LOCATION _____

CORRELATION COREGRAPH

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories-Canada, Ltd., (all errors or omissions excepted); but Core Laboratories-Canada, Ltd., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 10 cm = 24m

Total Water

FRACTION PORE SP

1.00 .80 .60 .40 .20

Oil Saturation

FRACTION PORE SP

0 0 .20 .40 .60 .80

Gamma Ray

RADIATION INCREASE

API

200

Permeability

MILLIDARCIES

1000

100

10

1

Porosity

FRACTION

.30

.20

.10

Depth
meters
1215

1225

1235

1245

1255